

ABSTRACT

An inspection method is provided for accurate measurement of conductive materials as defects within a silicon oxide film base material embedded in a SOI wafer sample. In the method, the internal state of a sample 2 is inspected by measuring an 5 conductive material within an insulating base material 11 formed upon the sample 2. Ions or electrons are irradiated upon the surface of the inspection region of the base material 11. A surface image is imaged with secondary electrons emitted from the surface 11a and the vicinity of the surface. The inspection region is etched and a surface image is imaged successively with secondary electrons emitted from a surface 10 11b and from its vicinity, renewed successively at the etched depth. The conductive material within the base material 11 is measured based upon the accumulated surface images.